

ABSTRACT OF THE DISCLOSURE

A method for increasing the capacitance of deep trench capacitors. The method includes providing a substrate, forming a pad structure on the substrate, 5 forming a photoresist defining the region of the deep trench on the pad structure, forming a deep trench in the substrate, removing the photoresist, forming a capacitor in the lower portion of the deep trench, forming a first insulation layer on the capacitor, forming an epitaxy 10 layer on the sidewall of the deep trench above the first insulation layer as a liner to narrow the dimension of the deep trench, and removing the first insulation layer uncovered by the epitaxy layer.